

1 Amendments to the Claims:

2 This listing of claims will replace all prior versions, and
3 listings, of claims in the application using (Original) (Currently
4 Amended) (New) (Canceled) (Previously Presented) nomenclature, as
5 recited in the below listing of claims.

6 1. (Currently Amended) A system for communicating an analog input
7 signal as a modulated binary laser signal over an optical
8 communication medium recovered as a digital output signal, the
9 system comprising,

10 a sigma delta modulator for receiving the analog input signal
11 and modulating the analog signal into a modulated symbol signal,

12 a transmitter for converting the modulated symbol signal into
13 the modulated binary laser signal, and for transmitting the
14 modulated binary laser signal over the optical communication
15 medium, the modulated binary laser signal having a pulse width
16 having a duration representative of the analog input signal, the
17 ~~modulated binary laser signal being transmitted asynchronously,~~

18 a receiver for receiving and detecting the pulse width of
19 modulated binary laser signal for providing a received symbol
20 signal, and

21 a digital filter for filtering the symbol signal into
22 the digital output signal.

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1 2. (Previously Presented) The system of claim 1 wherein the
2 transmitter comprises,

3 a symbol to binary converter for converting the modulated
4 symbol signal from the sigma delta modulator into a converted
5 digital signal, and

6 a pulse width modulator for modulating the laser signal by the
7 converted digital signal into the modulated binary laser signal as
8 a pulse width binary modulated laser signal communicated over the
9 optical communication medium.

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11 3. (Original) The system of claim 2 wherein the receiver comprises,

12 a pulse width detector receiving the pulse width modulated
13 binary laser signal and for providing a detected binary signal, and

14 a binary to symbol converter for converting the detected binary
15 signal into the received symbol signal.

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17 4. (Previously Presented) The system of claim 3 wherein,

18 the pulse width detector is a pulse width quantizer detector,
19 the detected binary signal is a detected quantized signal, and

20 the binary to symbol converter converts the detected quantized
21 signal into the received symbol signal.

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23 5. (Original) The system of claim 1 further comprising,

24 a timing recovery loop for generating a timing signal from the
25 receive symbol signal for clocking the digital filter.

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1 6. (Original) The system of claim 1 wherein,

2 the sigma delta modulator is a first order sigma delta
3 modulator.

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5 7. (Original) The system of claim 1 wherein,

6 the sigma delta modulator is a second order sigma delta
7 modulator.

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9 8. (Previously Presented) The system of claim 1 wherein the optical
10 communication medium is selected from the group consisting of free
11 space and a fiber optic.

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13 9. (Canceled)

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15 10. Canceled)

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1 11. (Currently Amended) A system for communicating an analog input
2 signal as a pulse width modulated binary laser signal over an
3 optical communication medium recovered as a digital output signal,
4 the system comprising

5 a sigma delta modulator for receiving the analog input signal
6 and modulating the analog signal into a modulated symbol signal,

7 a transmitter for converting the modulated symbol signal into
8 a converted digital signal for pulse width modulating a laser
9 signal into the pulse width modulated binary laser signal, and for
10 transmitting the pulse width modulated binary laser signal over the
11 optical communication medium, the modulated binary laser signal

12 having a pulse width having a duration representative of the analog
13 input signal, the modulated binary laser signal being transmitted
14 ~~asynchronously~~ through the optical communication medium,

15 a receiver for receiving and detecting the pulse width of the
16 pulse width modulated binary laser signal to provide a detected
17 binary signal and for converting the detected binary signal into a
18 received symbol signal, and

19 a digital filter for filtering the symbol signal into
20 the digital output signal.

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22 12. (Currently Amended) The system of claim 1 wherein the modulated
23 digital laser signal is ~~frame asynchronously~~ communicated over the
24 optical communication medium without the use of frame words.

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1 13. (Currently Amended) The system of claim 11 wherein the
2 modulated digital laser signal is ~~frame asynchronous communication~~
3 communicated over the optical communication medium without the use
4 of frame words.

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6 14. (Currently Amended) The system of claim 1 wherein,
7 the modulated digital laser signal is a pulse having a pulse
8 width indicating the analog input signal, and
9 the pulse is a laser pulse communicated ~~is for bit asynchronous~~
10 ~~communications~~ over the optical communication medium.

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12 15. (Canceled)

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14 16. (Previously Presented) The system of claim 11 wherein the
15 optical communication medium is selected from the group consisting
16 of free space and a fiber optic.

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18 17. (New) The system of claim 1 wherein the receiver comprises,
19 a pulse width detector for detecting the pulse width of the
20 modulated binary laser signal laser pulses of the communicated
21 signal and provides binary values,
22 a binary to symbol converter for changing the binary values
23 from the pulse width detector into symbols, the digital filter for
24 filtering the symbols for providing a clocked digital output
25 signal, the digital filter filtering a continuous stream of
26 symbols.

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1 18. (New) The system of claim 17 further comprising,

2 a timing recovery loop for receiving the symbols and for
3 clocking the digital filter for providing the clocked digital
4 output signal.

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6 19. (New) The system of claim 18 wherein,

7 the timing recovery loop recovers from the symbols a sample
8 rate to provide a clock signal to the digital filter, and

9 the clocked digital output is an n bit digital sample of the
10 analog input signal, the digital filter filtering a continuous
11 stream of symbols.

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13 20. (New) The system of claim 19 wherein,

14 the system does not use parallel to serial conversion, frame
15 synchronization, data reclocking, forward error correction, or
16 significant bit reordering for generating the clocked digital
17 output signal.

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19 21. (New) The system of claim 11 wherein the receiver comprises,

20 a pulse width detector for detecting the duration of the pulse
21 width of the modulated binary laser signal laser pulses of the
22 communicated signal and provides binary values,

23 a binary to symbol converter for changing the binary values
24 from the pulse width detector into symbols, the digital filter for
25 filtering the symbols for providing a clocked digital output
26 signal.

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1 22. (New) The system of claim 21 further comprising,

2 a timing recovery loop for clocking the digital filter for
3 providing the clocked digital output signal,

4 wherein,

5 the timing recovery loop recovers from the symbols a sample rate
6 to provide a clock signal to the digital filter, and

7 the clocked digital output is an n bit digital sample of the
8 analog input signal.

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10 23. (New) The system of claim 22 wherein,

11 the system does not use parallel to serial conversion, frame
12 synchronization, data reclocking, forward error correction, or
13 significant bit reordering for generating the clocked digital
14 output signal.

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